CLAIMS

1. A composition for treating an inorganic slurry, the composition comprising:

(a) a tetrakis(hydroxyorgano)phosphonium salt (herein THP^+ salt);

and

(b) a dispersant selected from the group consisting of:

(i) phosphonated compounds containing at least one tertiary nitrogen atom;

(ii) phosphonated oligomers of unsaturated acids;

(iii) homopolymers of unsaturated acids;

and (iv) polyphosphates.

2. A composition according to Claim 1, in which the THP^+ salt is tetrakis(hydroxymethyl)phosphonium sulphate.

3. A composition according to Claim 1, in which the THP^+ salt is tetrakis(hydroxymethyl)phosphonium chloride, phosphate, nitrate or oxalate.

4. A composition according to any one of Claims 1 to 3, in which the dispersant (b(i)) is a phosphonated compound containing one tertiary nitrogen atom.

5. A composition according to Claim 4, in which the dispersant (b(i)) is a sodium salt of nitrilo-tris(methylene phosphonate).

6. A composition according to Claim 5, in which the salt is the tetra-sodium salt.

7. A composition according to any one of Claims 1 to 3, in which the dispersant (b(ii)) is a phosphonated oligomer of maleic acid.

8. A composition according to Claim 7, in which the oligomer has the general formula $H(CH_2OM.CH_2OM)_n\ PO_3M_2$, wherein M is a cationic species such that the oligomer is soluble in water and n is a number greater than 1.

9. A composition according to any one of Claims 1 to 3, in which the dispersant (b(iii)) is a homopolymer of acrylic acid.

10. A composition according to Claim 9, in which the homopolymer has a molecular weight in the range 2000 to 5000.

11. A composition according to any one of Claims 1 to 3, in which the dispersant (b(iv)) is sodium tripolyphosphate.

12. A method of treating an inorganic slurry to maintain the slurry in a substantially homogeneous phase, the method comprising the addition to the slurry of an effective amount of a composition according to any one of Claims 1 to 11.

13. A method according to Claim 12, in which the ratio of THP^+ salt to dispersant in the composition is about 2:1 (as active ingredients).

14. A method according to Claim 12 or 13, in which the composition is added to the slurry in an amount in the range 10ppm to 1000ppm (by weight of the slurry).

15. A method according to Claim 14, in which the composition is added to the slurry in an amount of about 750ppm (by weight of the slurry).

16. A method according to any one of Claims 12 to 15, in which the slurry comprises a calcium carbonate-based slurry.

17. A method according to any one of Claims 12 to 15, in which the slurry comprises a pigment slurry, a clay slurry or a cement slurry.

18. A method of treating an inorganic slurry, substantially as hereinbefore described with reference to the Examples.